

GES4SEAS

Milestone Reports

M1.3 – Brief on PAB outcomes to WP2



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1. Milestone M1.3

This *Milestone Report* summarizes the milestone M1.3 (Brief on PAB outcomes to WP2) achieved in the *GES4SEAS* project.

This milestone refers to:

Task 1.1. Practitioners' Advisory Board (PAB): map stakeholders, lead by UAVR and developed in partnership with AZTI, NIVA, IECS, SYKE, TI-SF, ISPRA, Scitation; and to

Task 1.2. Co-creation and design thinking process, lead by AZTI and developed in partnership with UAVR, NIVA, AU, SYKE, TI-SF MariLim, Scitation, CNRS, ISPRA.

The online stakeholder survey as well as the kick-off meeting 1st Practitioners' Advisory Board (PAB) workshop were the basis for the main outputs presented below.

1.1 GES4SEAS Stakeholder Initial Survey results



Lime Survey platform, a free and open source on-line statistical survey web app was used for the online survey, set up through UAVR partner institutional access, and freely distributed to the PAB and to a wide network of stakeholders with the collaboration of the EEA in the dissemination of the survey through EU Member States.

GES4SEAS Stakeholder Initial Survey

2022-09-29



ACHIEVING GOOD ENVIRONMENTAL STATUS FOR MAINTAINING ECOSYSTEM SERVICES, BY ASSESSING INTEGRATED IMPACTS OF CUMULATIVE PRESSURES

Grant Agreement no. 101059877

www.ges4seas.eu

GES4SEAS is a HORIZON EUROPE 4-year research project that started in September 2022.

The main objective of the project is to guide marine governance processes on minimising human pressures and their impacts on coastal and marine biodiversity and ecosystem functioning, while maintaining the sustainable delivery of ecosystem services.

GES4SEAS aims to co-develop an innovative toolbox, tested, validated, and demonstrated, in the context of an adaptive ecosystem-based management (EBM). This will allow competent authorities to assess and predict the effect of multiple stressors (including climate change) and pressures from human activities, at the national, sub-regional, regional seas and European level, and achieve Good Environmental Status (GES).

The ultimate goal is to develop a GES4SEAS toolbox that is sufficiently flexible and powerful to cover the needs in terms of reporting and decision support for different policies (e.g., MSFD, Birds and Habitats Directives (BHD), Biodiversity Strategy), but also to capture local and subregional specificities, and allow intercomparisons across regional seas, meeting the expectations of the implementing authorities and fit for endorsement by policy- and decision-makers.

The survey Through an online survey, during the summer of 2022, GES4SEAS collected input for initiating the co-creation and design thinking process of such a toolbox. This survey was a call for the needs of an extended audience (including all Member States, a large range of policymakers, institutions, and experts), to gather multiple views and foster early discussions with the project Practitioners Advisory Board (PAB). These results will be presented and discussed during the 1st PAB workshop at the kick off meeting 26 to 30 September 2022.

This survey was based on a structured questionnaire with up to 36 questions, structured in three parts that focus on i) the characterisation of the survey participant; ii) understanding the assessment needs and the desired features of the toolbox; and iii) the willingness to engage in the co-creation process.

Part I. Characterisation of the survey participants

There were a total of 50 respondents, of which only 22 have completed the survey. Here we report the main findings based on the complete answers.

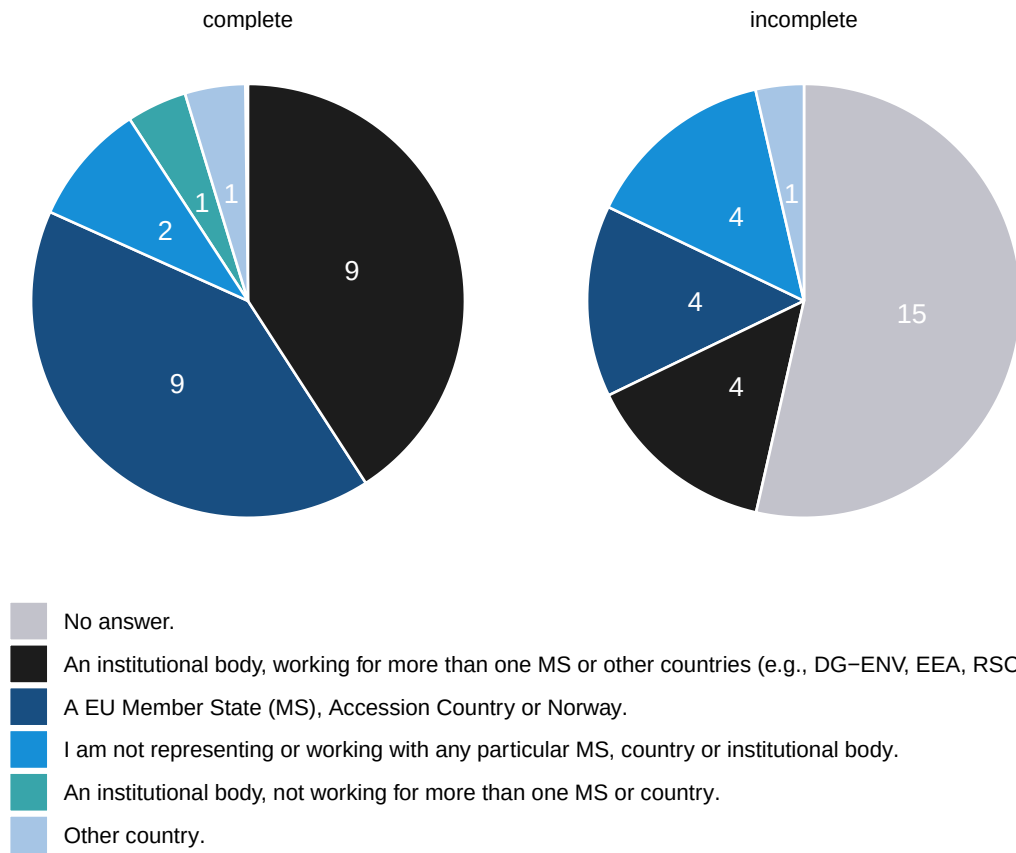


Figure 1: Number of participants in the survey per representation, submitting complete and incomplete questionnaires.

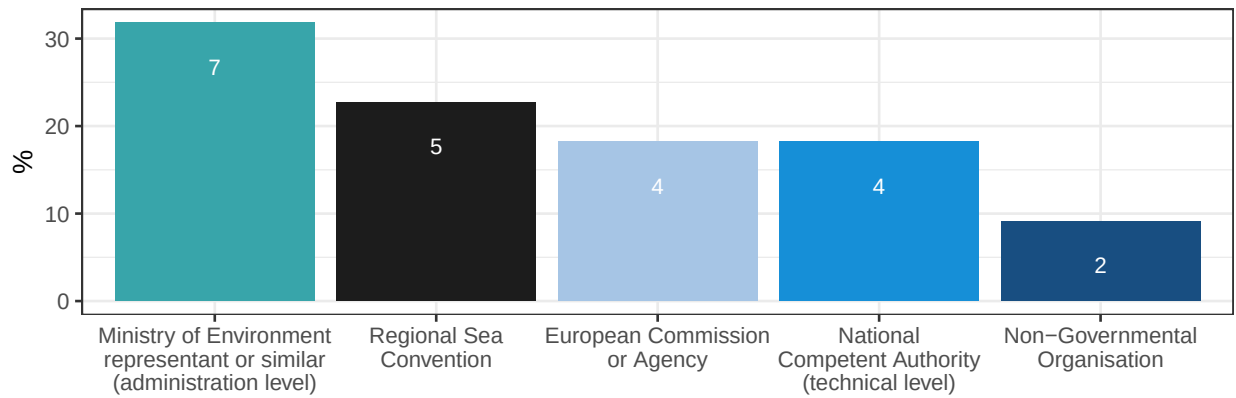


Figure 2: Type of stakeholder and/or organization participating in the survey.

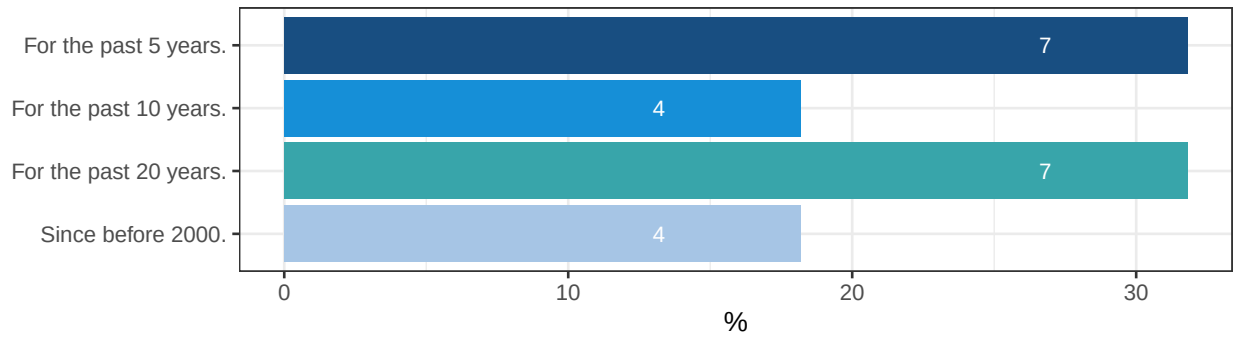


Figure 3: Participant experience working on the environmental assessment field.

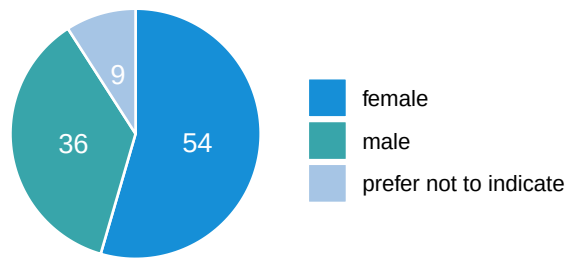


Figure 4: Participants' gender balance.

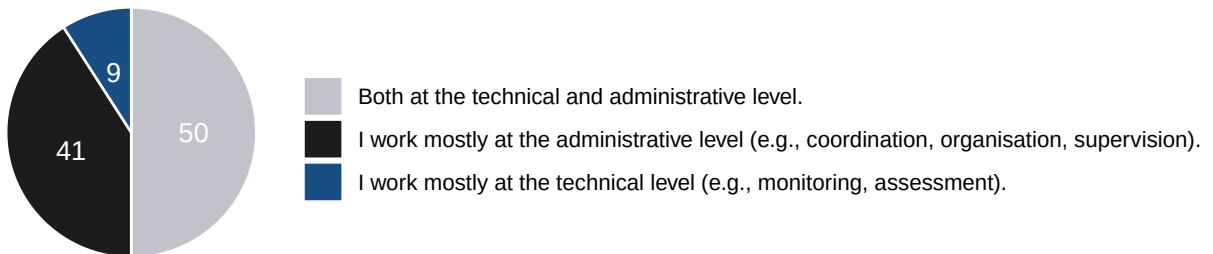


Figure 5: Main role of survey participants.

Some institutions already use tool(s) for assessing the overall environmental status of the marine ecosystems.

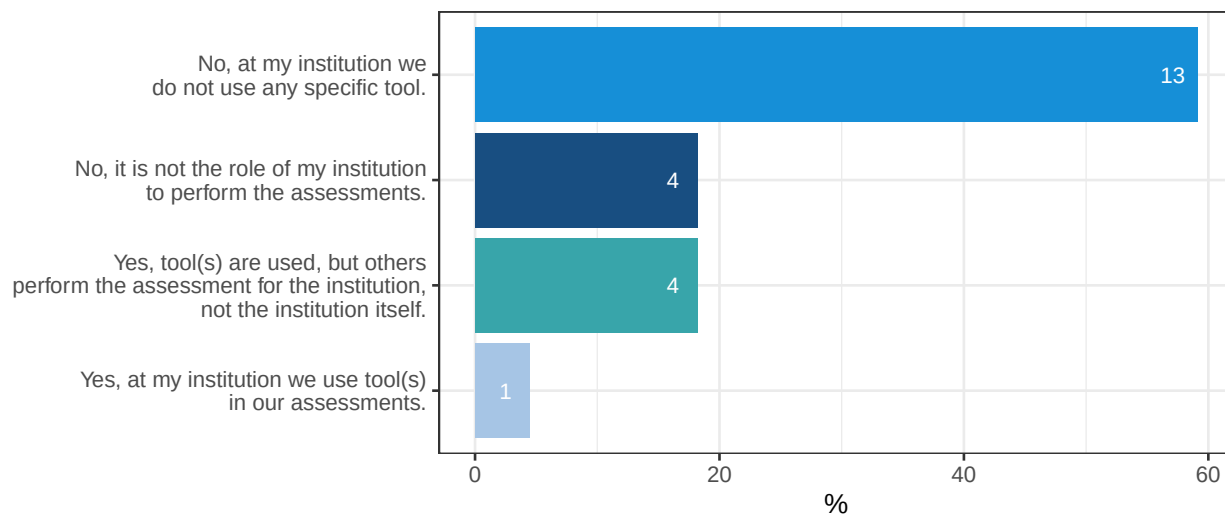


Figure 6: Institutional usage of tool(s) to assess the environmental status of the marine ecosystems.

The level of familiarity of the survey participants with such tools is however quite variable.

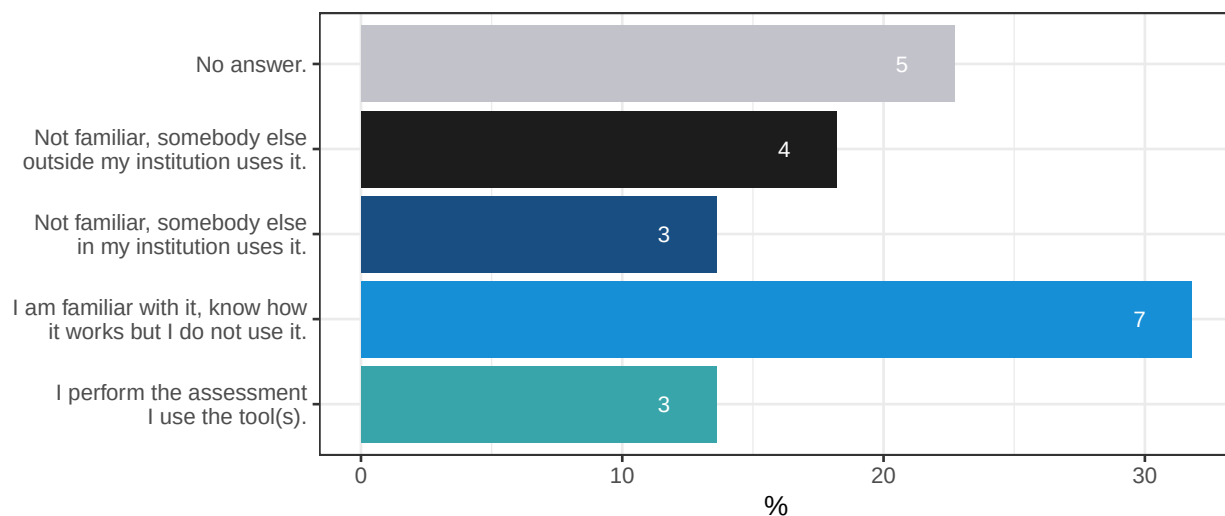


Figure 7: Familiarity of survey participants with the usage of tool(s) to assess the environmental status of the marine ecosystems.

Which type of tools are being used for the assessments? Although not all participants provided details or specified the tools at use ($n=$), we got some indication of current approaches:

- Indicator / Model based tools:
 - TRIX, BEAST, NEAT, HEAT, CHASE, BEAT
 - Applying the concept “tool” in a broad sense: indexes, models, etc. There is not one only tool, but many depending of the descriptor, criteria, etc
 - Indicators feed with regular collected monitoring data
 - R-tools ecosystem based management for trophic network analysis

- HELCOM uses several tools in their assessments, especially in the holistic assessments, done every 6 years or so.
- OSPAR’s Assessment Portal: <https://oap.ospar.org/en/>
- Risk-based analysis / effects and impacts assessment:
 - Geospatial risk analysis, hazards analysis, risk based criteria, pathways of effects
 - Geospatial analysis for coastal and marine planning and effectiveness of regulatory and non-regulatory technical measures as well as cumulative effects assessments
 - For the cumulative impacts HELCOM has develop an in-house tool to run the assessment, that has been developed further within the last 2 years for the third holistic assessment, to be ready next year. With the tool, it is possible to run the cumulative impact assessment and explore the results.
 - CEA/vulnerability assessment
- Vague:
 - Marine Strategy / Marine Strategy tools / Marine Strategy monitoring programmes

Geographic coverage

Table 1: Geographic coverage of regional seas by participants in the survey.

Regional Sea	Percent
Mediterranean Sea	25.0
North-East Atlantic Ocean	25.0
Baltic Sea	18.8
All European Seas	15.6
Black Sea	9.4
Artic	3.1
North-West Atlantic Ocean	3.1

Part II. Understanding the assessment needs and the desired features of the toolbox

This part of the questionnaire focused on the assessment needs and the toolbox features, namely on the input data, structure of the toolbox and also the output data.

The survey participants provided 78 suggestions of the top features or capacities that an environmental assessment toolbox is expected to consider. We grouped those suggestions into main categories related with:

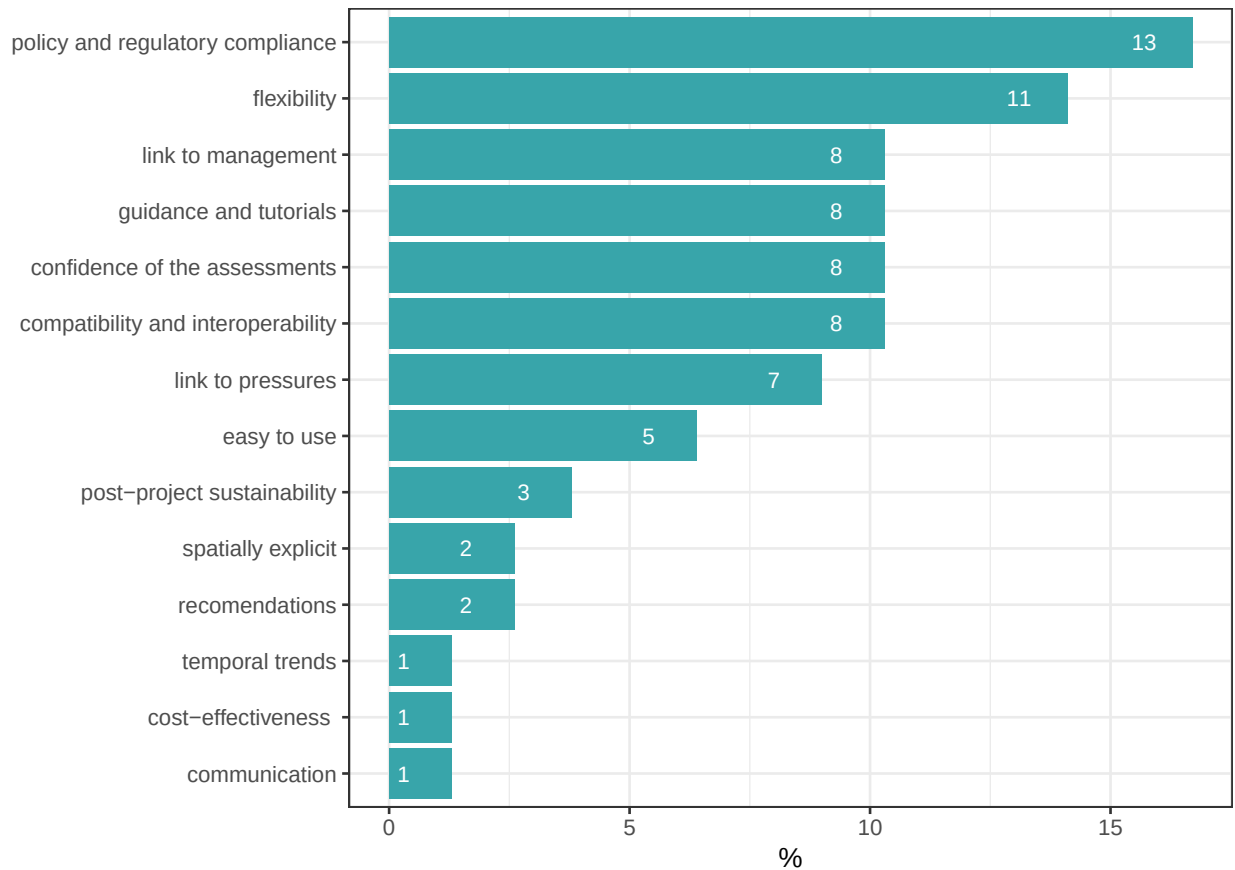


Figure 8: Top features or capacities stakeholders expect from an environmental assessment toolbox.

Table 2: Toolbox top desired features.

policy and regulatory compliance	flexibility	guidance and tutorials	compatibility and interoperability
possibility to not only draw reports for the env. assessment but also for ocean literacy and policy dialogue	Flexible enough to handle data gaps	sections on best practices, FAQ, and short and clear tutorials	Harmonisation, comparability (and if possible interoperability) of the assessments across areas, timescales, functional groups, etc.
Usefulness for some official commitments (national or international assessments and optimally reporting obligations)	flexibility to use the available data	Clarity on inputs/outputs and methods (with short guidelines)	compatibility
coherence with MSFD reporting	run the assessment on any desired human activities and ecosystem components	structure of the toolbox	the toolbox should be used at whole marine region and fit with others developed at the region level
Possibility to export results to be used in e.g. national work	Diverse functionalities to explore the results	Traceable output (i.e. no black box)	Standardization to facilitate institutional reporting
Suitable for Art. 8	To be flexible to allow for various levels of aggregation (in terms of content)	relatively easy to work - sufficient technical information on how to operate	wide application
To provide products that answer various policy questions (i.e. we should have more tools, not only one)	To be flexible to allow for various levels of spatial aggregation (e.g. by sub region, region, EU or beyond EU)	relatively transparent (no black box)	open access
to support the assessment of the status of marine ecosystem	ability to derive results at a regional scale and national scale (to all countries to manage impacts at these level)	Best practice section, FAQ, and short & clear training tutorials	Standardisation
Output on different levels, i.e. for experts, public and decision makers	flexibility	Comprehensive	Comparable, agreed and accessible datasets
Methodological consensus support in all Sea Conventions and ICES: wide buy-in	Possibilities to integrate various assessment features (e.g. whales and distribution of fisheries metiers)	–	–
to produce relevant results for decisionmakers	ecological components	–	–
Relevancy	Adaptive	–	–
Useful for broad environmental reporting	–	–	–
Based on an agreed set of parameters (e.g. species)	–	–	–

Table 3: (cont.) Toolbox top desired features.

confidence of the assessments	link to management	link to pressures	easy to use
Provides level of uncertainty	Tools to monitor and determine the effectiveness of regulatory and non-regulatory management measures	Tools to determine water and habitat quality guidelines for individual pressures	Simple to understand and use
clear reference to the reliability of the assessment	ability to predict changes in relative impacts in future scenarios (resilience of a system)	Tools to link the effectiveness of regulatory and non-regulatory management measures to cumulative pressures	easy interface
reliability	Forecast the result of various action/non-action scenarios (at MS level, and coordinated action at (sub-)regional level)	MSFD Art. 1 (3) ...apply an ecosystem-based approach to the management of human activities, ensuring that the collective pressure of such activities is kept within levels compatible with the achievement of good environmental status...	easy to use
assessment of confidence	Capacity to use tool box for forecasts	ability to consider multiple pressures, their cumulative and individual impacts	Ease of use
should be based on impact-response curves	Governance and interventions	Rank pressures at a regional/sub-regional level	Easy to use
Reliability of assessments	social actors	The tool should be informed by cumulative effects assessment.	–
Validity of assessments	The tool should be framed to address the management measures being considered in planning and implementation	The tool should link regulatory and non-regulatory frameworks to the pressures generated by human activities.	–
Consistency	Clear scope of the system elements, i.e. Biodiversity assessments, Pressure assessments in order to identify needed measures.	–	–

Table 4: (cont.) Toolbox top desired features.

post-project sustainability	recomendations	spatially explicit	communication	cost-effectiveness	temporal trends
sustained and reliable service maintained post-project	Hand and footholds for policy: Not just what is wrong, but where should we fix it	Suitable for D1C4	Intuitive interface to not only generate reports but also to view data for information needs (e.g. visualizations for various audiences, ocean literacy, etc)	Provide (cost-)effective options to address the key pressures	regularity of observation over time / time series
sustainability	focus on main interesting subjects (and not more evident to measure)	GIS	–	–	–
A recognized assessment service maintained post-project	–	–	–	–	–

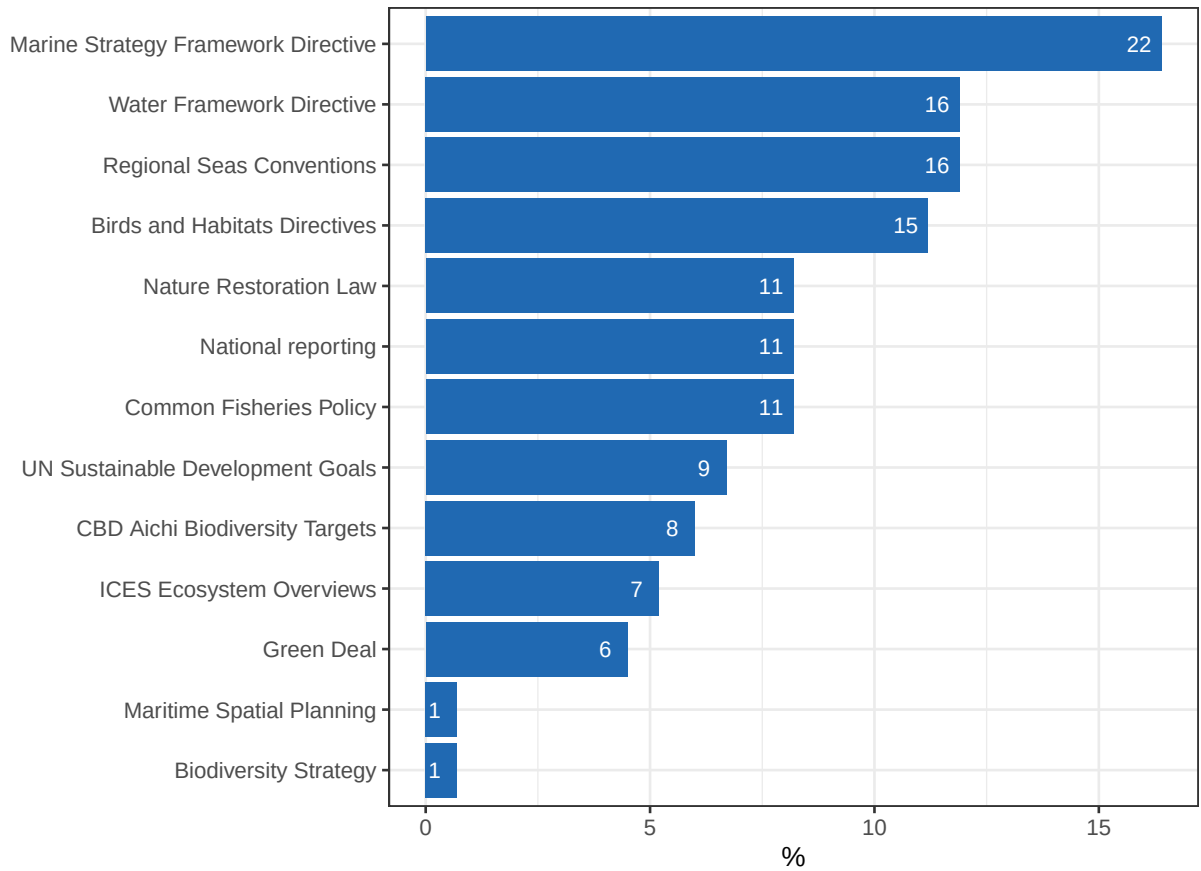


Figure 9: Relevance of toolbox assessments for different policy reporting obligations.

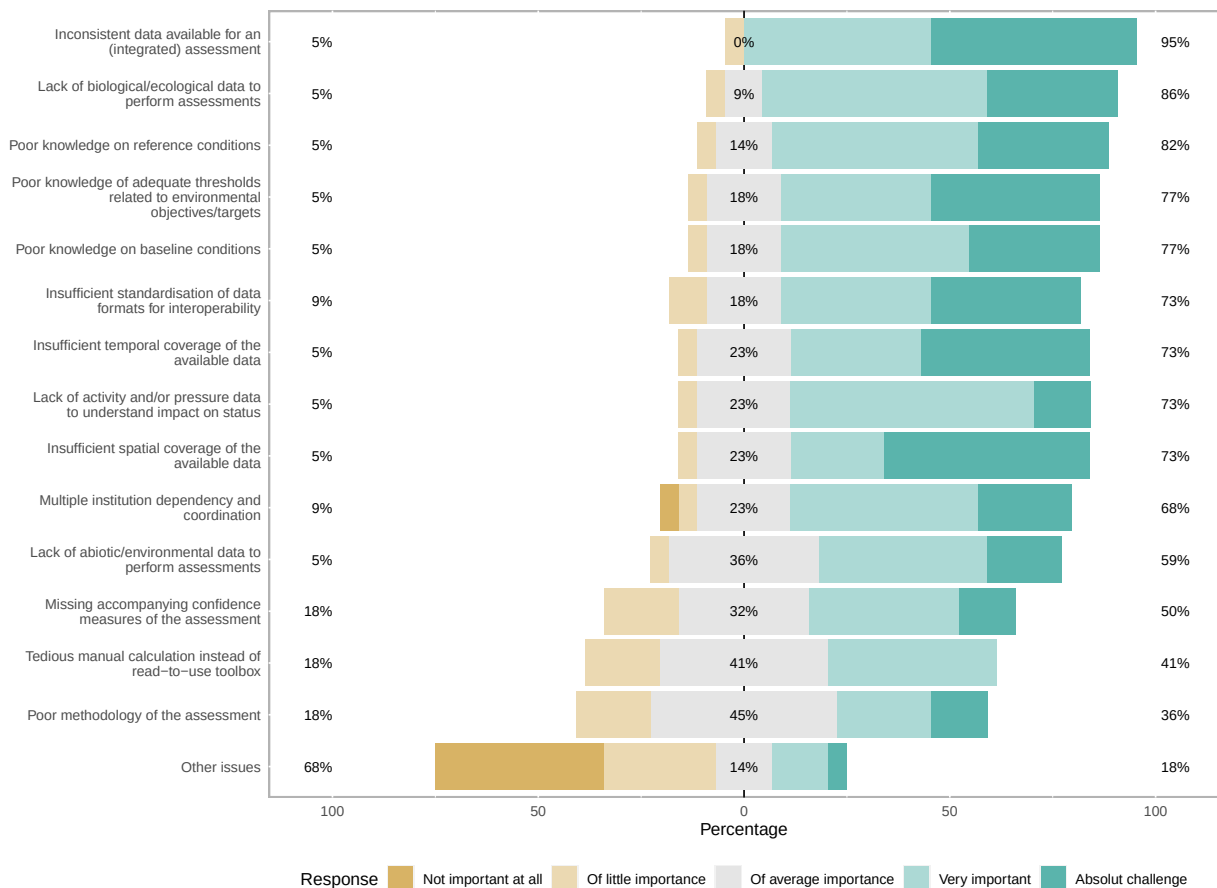


Figure 10: Key issues faced with environmental status assessments.

Other issues were raised such as:

- Access to best practices across regions and countries
- The above importance of missing elements varies between different topics
- Difficulty of establishing common regional/subregional threshold values (TV ?)
- Insufficient data for setting up the thresholds values for some descriptors as well as funding
- Lack of political will that makes the assessment difficult
- Timeline assessment of environmental status

(note: options for 'Of average importance' may reflect uncertain answers, according to feedback received)



Figure 11: Most common type of data with which stakeholders need to deal with.

Input Assessment Data How confident in general are stakeholders about the data available (e.g., indicator selected, monitored data)? Are there confidence measures associated with e.g. indicator data that need to be imported with the input data?

Stakeholders pointed out that confidence also depends on the data source and/or data type and on the assessment being carried out at the national level. It was nonetheless recognized that confidence assessment is very important but it has not been developed fully for all assessments undertaken.

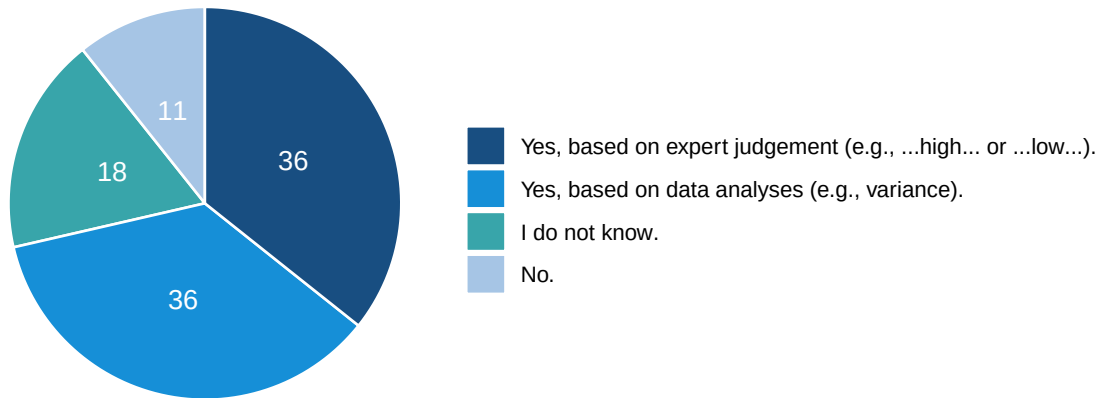


Figure 12: Availability of confidence measures associated with assessment data.

How important is it to import data from different formats or sources?

Stakeholders mentioned that data format will always be an issue to figure out because of the owners of the sources of the data. They also referred that validated data is the preferred source of data for national assessments, however this may not always be available.

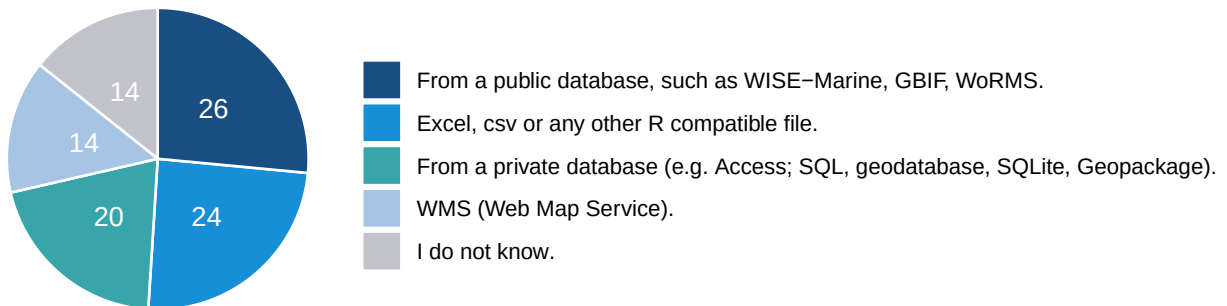


Figure 13: Most common assessment data formats required by stakeholders.

The majority (95.5 %) would find it useful for the toolbox to offer the possibility to save and share indicators with respective user defined threshold values along with information on the, e.g., geographical /habitat area in which they have been used. Although for some stakeholders this is difficult to say as they do not perform the environmental assessments themselves.

Some referred also that it would be better to provide raw data and sampling effort information, but if it is not possible, it can be an option. (But this statement indicates that there may have been some misunderstanding of the question here, as these aspects are not replaceable).

Structure of the toolbox Should the tool include possibilities to calculate, i.e., perform the assessment at different ecosystem levels?

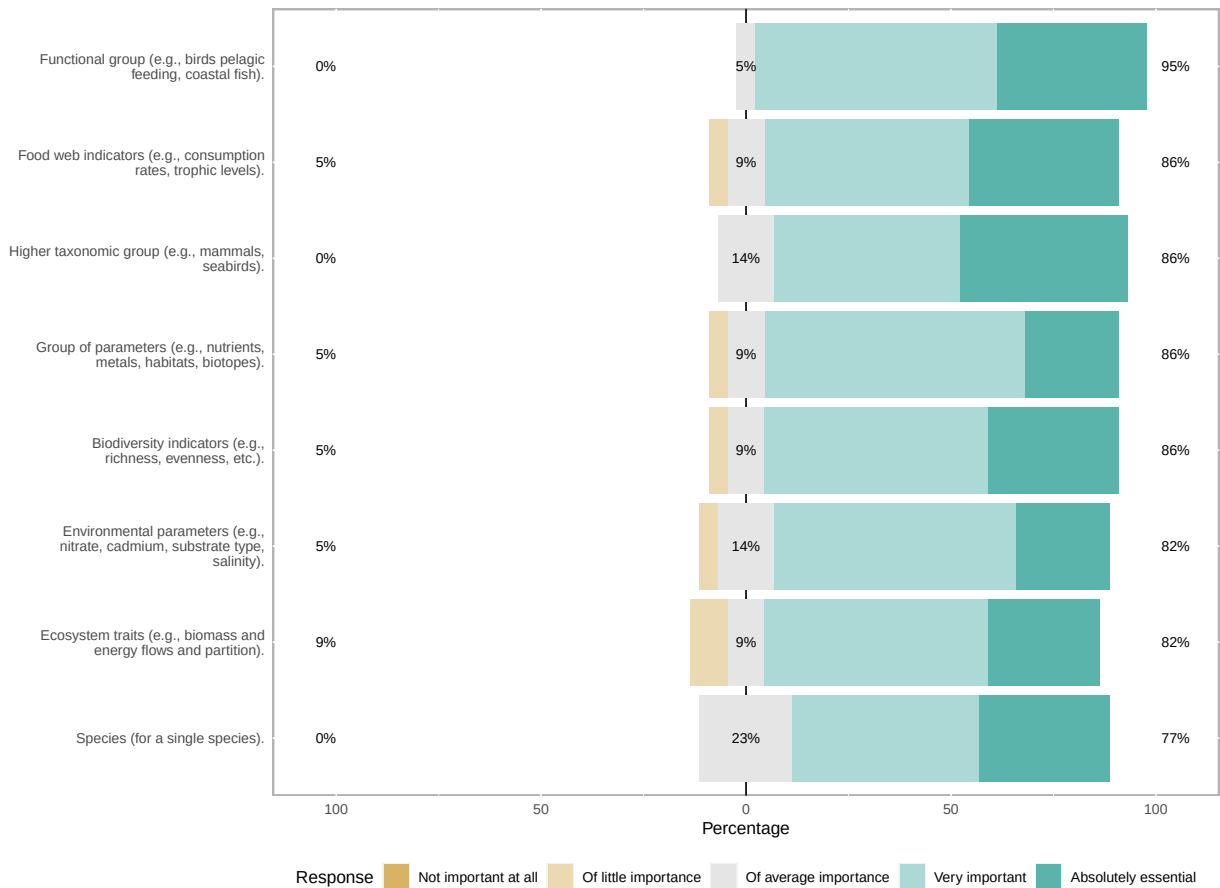


Figure 14: Importance of considering different ecosystem levels for the assessments.

Should the tool include possibilities to aggregate at different levels?

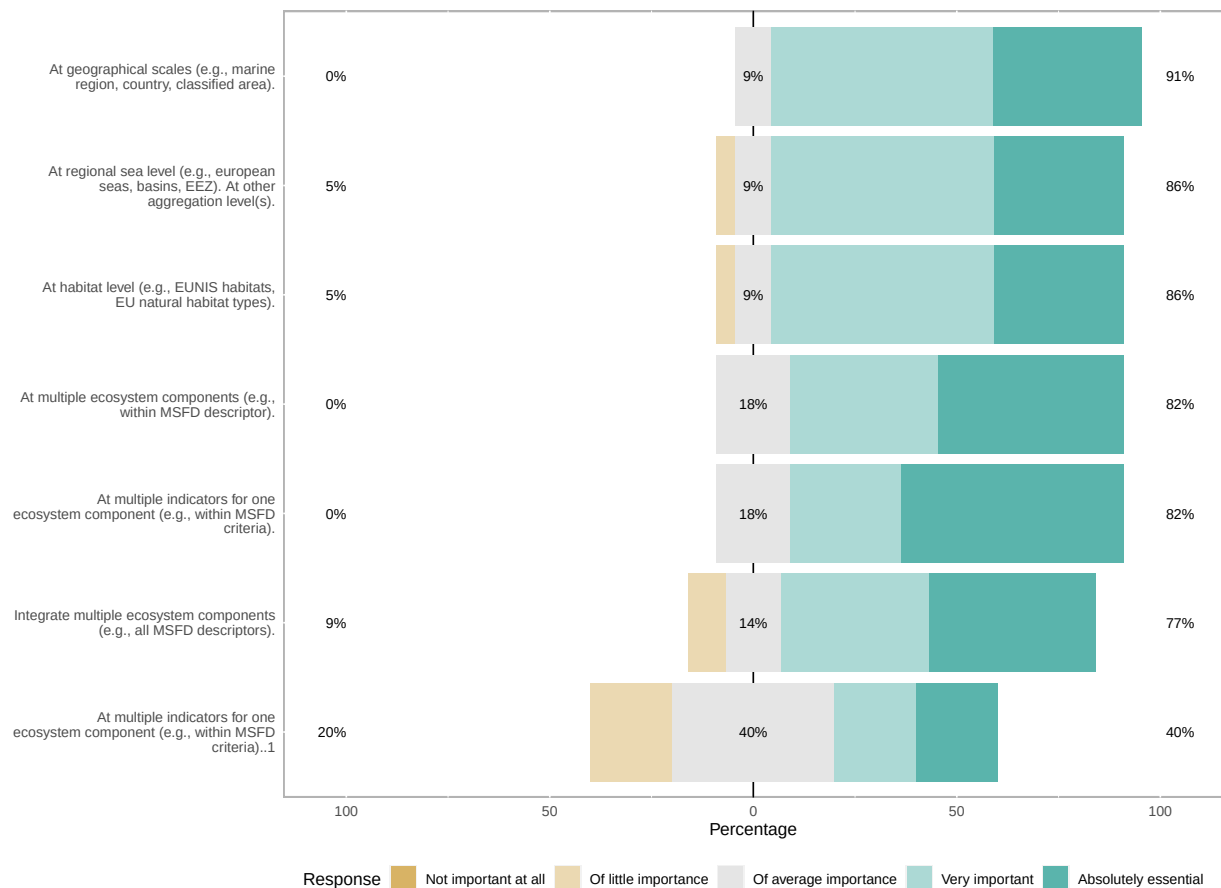


Figure 15: Importance of different aggregation levels for the assessments.

Additional aggregation level(s) considering other new aspects were mentioned as well as were some items were further detailed for consideration, namely:

- Thematically:
 - At the level of policies/strategies/directives of relevance, socio-economic data included;
- Spatially:
 - Tool should allow to go beyond EU sea, at least to capture EEA area;
 - At national level ; at the level of Europe's seas; at the level of EEA (<https://www.eea.europa.eu/countries-and-regions>);
 - Regional Sea Conventions' regions or subregions;
 - Sub-regional level;
 - Water Bodies (WFD);
 - Marine protected Areas (MPAs).

All survey participants (n=22), only complete surveys) considered they would like to have flexibility to select the aggregation level.

When aggregating for different ecosystem components (e.g., MSFD criteria/descriptors), how important would it be that the tool is able to aggregate according to:

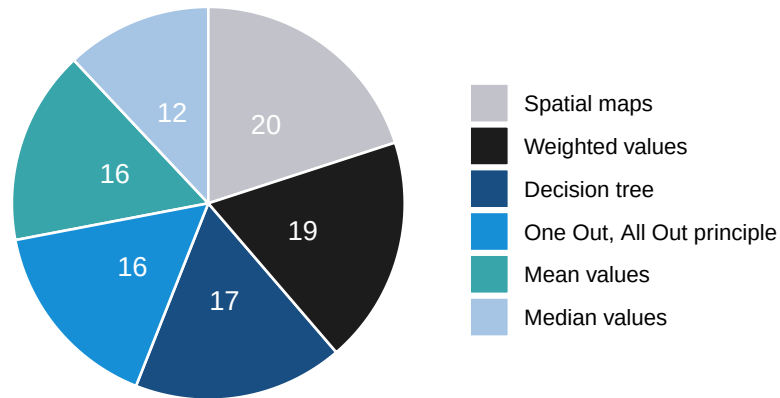


Figure 16: Preferred aggregation types.

Other aspects were commented highlighting that policy requirements or methodological approaches agreed along the process would drive such choice:

- whatever policy agreed methods;
- dependent on agreement within the MSFD community. It might be good to have aggregation option only (or as a priority) for type of aggregation that is (or will be) proposed under MSFD
- All of the above and/or the decision rules agreed in the RSCs and/or the CIS process, if available
- The method of aggregation will depend on the components being aggregated and their relationship to each other;
- Depends on the topic.

In any case, participants consider important to have flexibility to select from the previous aggregation types (indicator level: 77.3%; ecosystem level: 81.8%).

(likert) How important are the statements below to you?

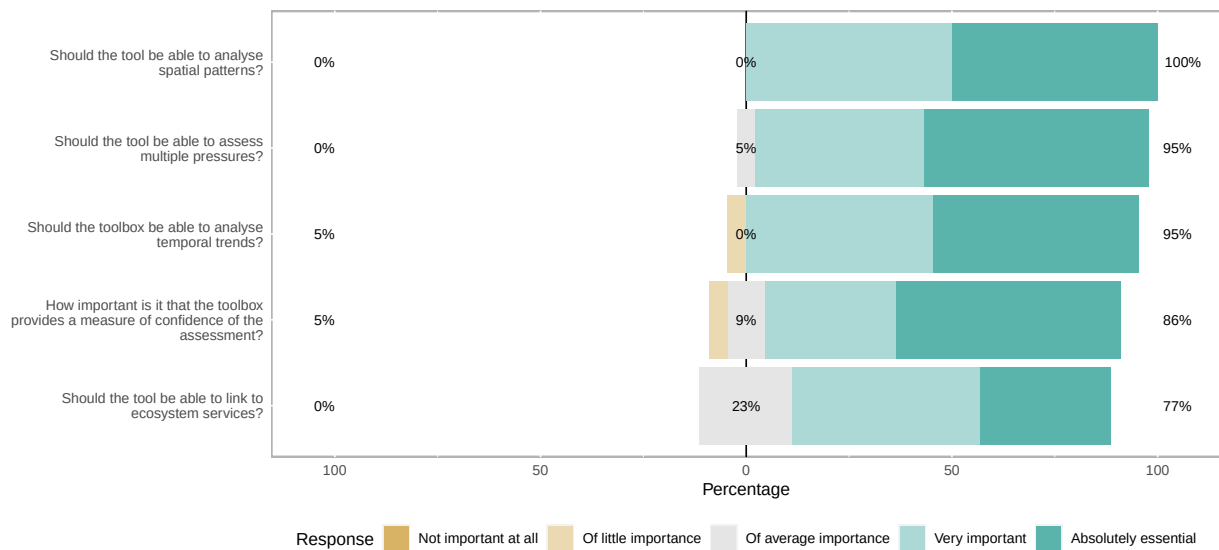


Figure 17: Importance of toolbox potential assessment functionalities.

Outputs of the tool How do you imagine the toolbox graphical user interface (GUI)? Select the top three features from the options below:

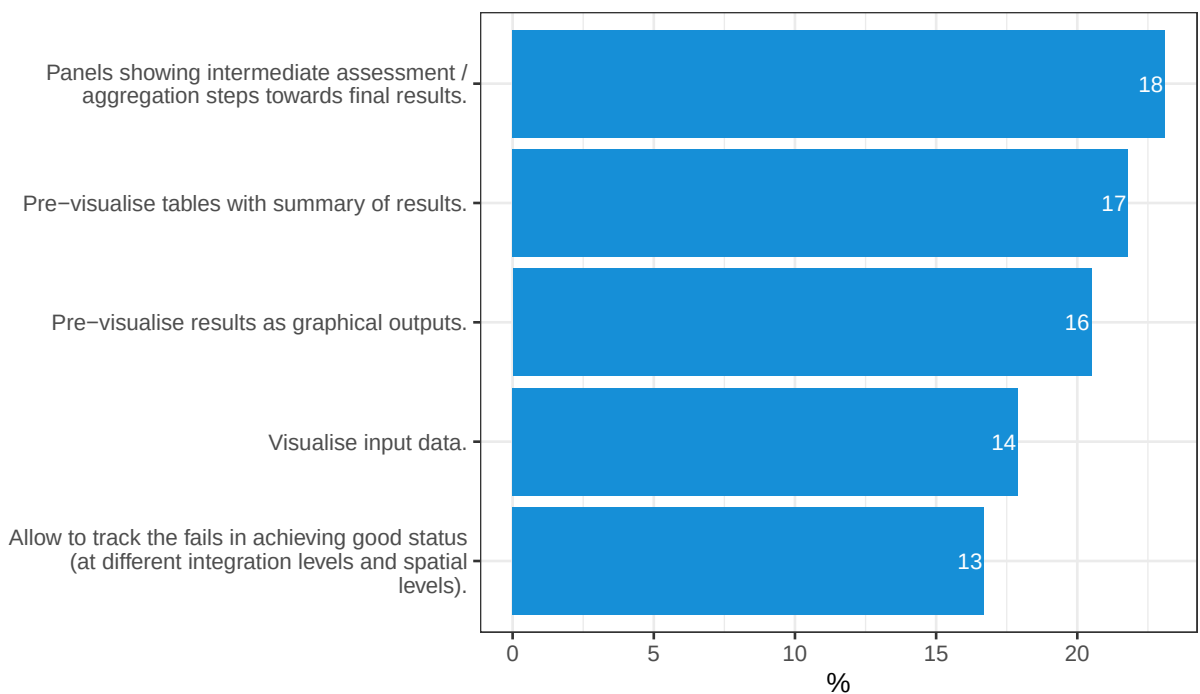


Figure 18: Relevance of different functionalities for the toolbox.

What kind of outputs should the toolbox provide?

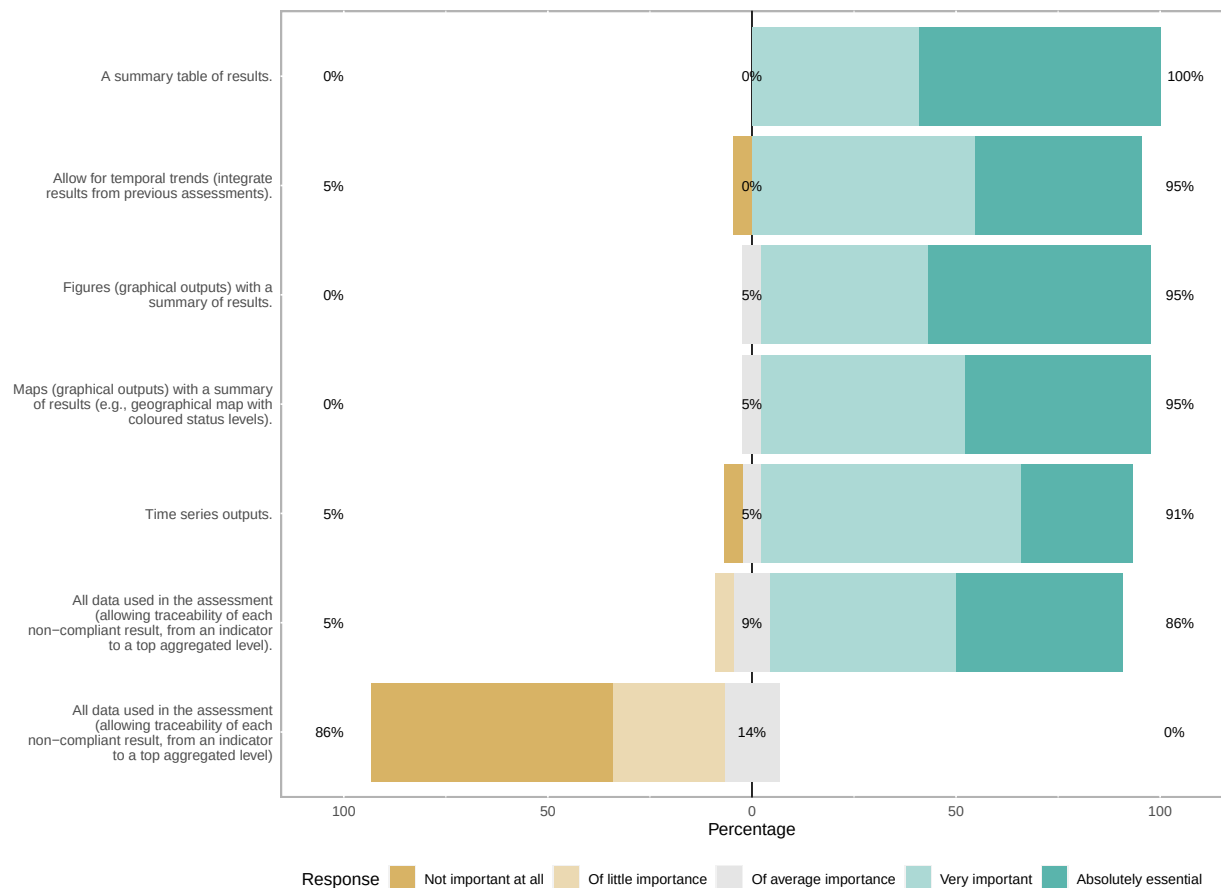


Figure 19: Relevance of potential outputs of the toolbox.

Other outputs, not listed above, were also considered important by the participants:

- Connection with relevant policies/regulations/strategies/directives;
- The possibility to explore the results in the tool, including the shares or contribution of pressures and ecosystems in a given place / region;
- Interactive maps / tools are more efficient and in depth in communicating the pressures, but obviously not to forget the static ones either.

The toolbox is planned to be desktop software. When asked, participants mentioned that having an online public viewer (63.6%) or an online password protected viewer (40.9%) would also be important.

Part III. Willingness of the stakeholders to engage in the co-creation process

Are you part of the GES4SEAS Practitioners Advisory Board (PAB)?

There were three new stakeholders not in the PAB that, depending on the role, would be interested in being involved in the GES4SEAS co-creation process, for example, if we need support for environmental Mediterranean data base collaboration, or simply to be informed of the progress in developing toolbox.

By which means would you be willing to participate in this co-creation process?

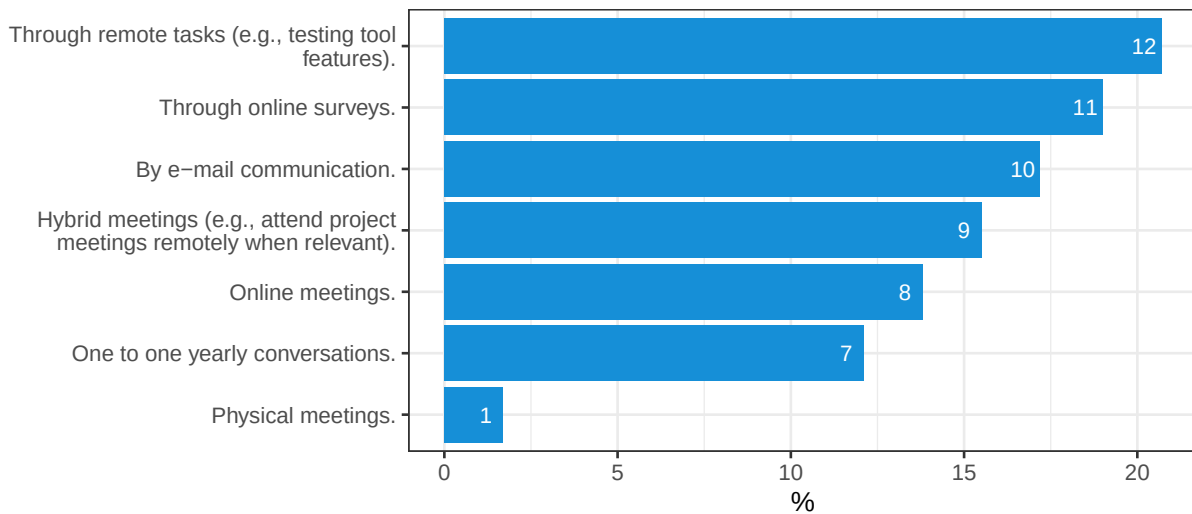


Figure 20: Co-creation participation means.

How would you prefer to be informed of the progress?

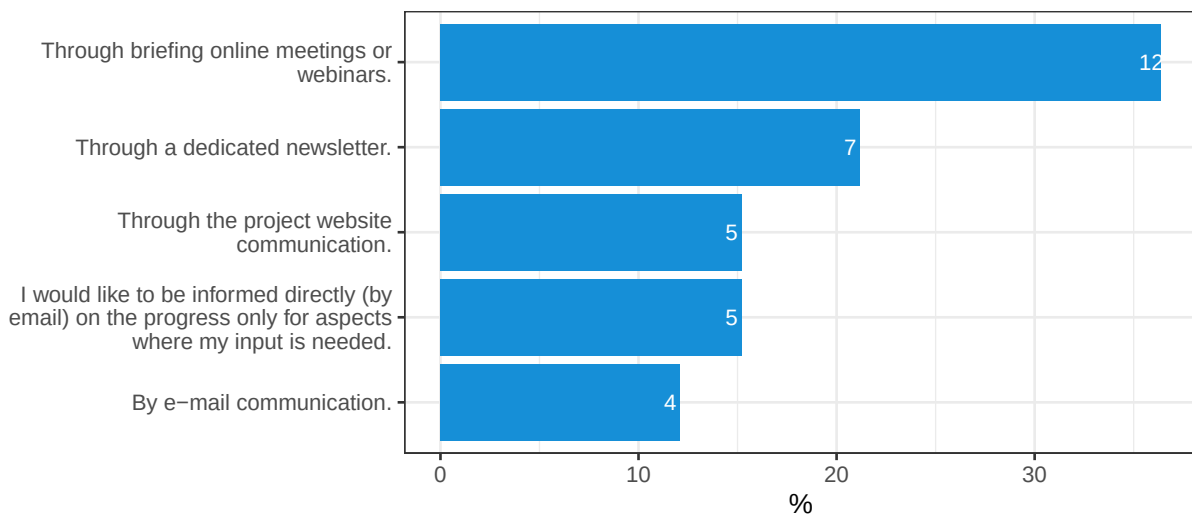


Figure 21: Preferred means of communication to be informed on the co-creation process.

What do you expect from this co-creation process?

- “A useful and transparent tool that can be used to assess GES at different scales, for different purposes: e.g., Regional Seas Conventions Quality Status Reports, MSFD.”
- “A well lead process, with trageted tasks to help in the co-creation. In the beginning it’s important to throw around ideas to find out all the best practices etc., but i believe that after that a more focused approach is needed with dedicated tasks, deadlines and continuos follow-up.”
- “I would like to see that the toolbox is something what is actively used by Member States in the end.”
- “To get a vision about the process for developing and using the tools. This will support my activities at national, regional and EU level”.
- “I would expect consultation on the process at key intervals to ensure the tools being developed are fit for purpose and applicable for national, regional and EU purposes. I would expect that the current work to date undertaken on integration at an EU level (MSFD) and also in the regional seas conventions be considered fully in the process.”
- “To bring tools closer to end users.”
- “To provide some recommendations for monitoring and data QA/QC (if relevant).” * “To help you help us: Test early versions, reflect on ideas etcetera. I think the project has very ambitious aims, and you want to keep touching base with the policy / end-user to make sure the tool will be used and appreciated in the end.”

1.2 GES4SEAS 1st Practitioners' Advisory Board workshop

The results of the online survey were presented and discussed during the 1st PAB workshop at the kick off meeting (26 to 30 of September 2022).

A participatory session took place during the workshop to enable the prioritisation by the PAB of the top features or capacities that stakeholders expect from an environmental assessment toolbox as extracted from the survey (Figure 22).

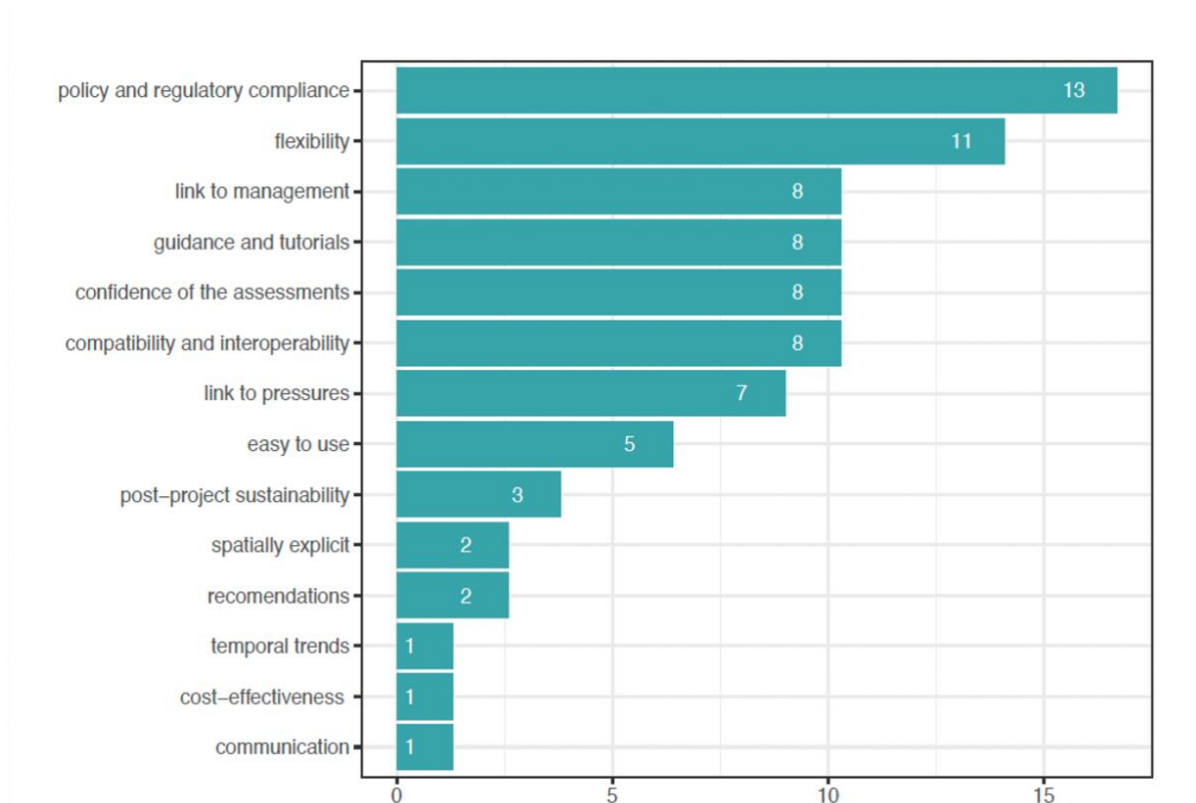
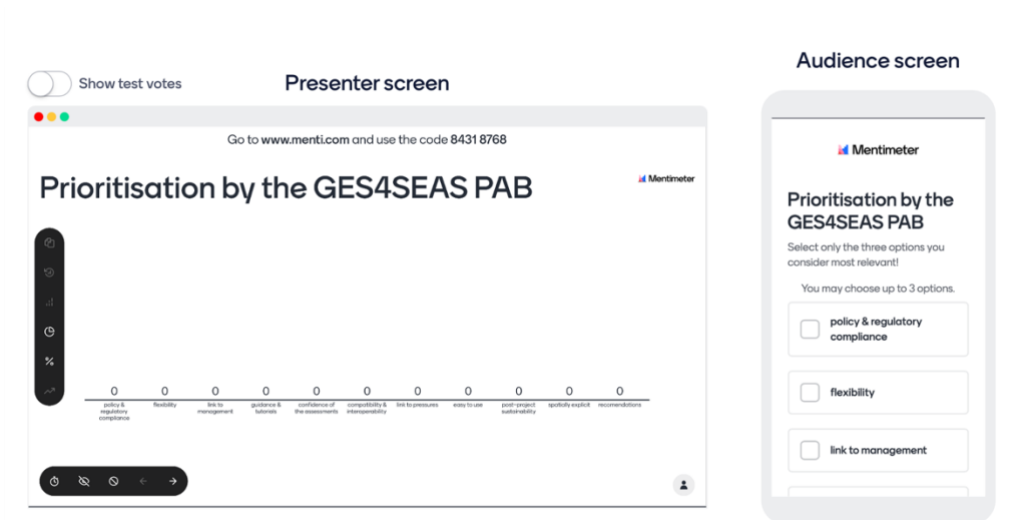


Figure 22: Ranked top features or capacities that stakeholders expect from an environmental assessment toolbox, as summarized from the online survey results.

Using the www.mentimeter.com online voting platform, and through an interactive poll (Figure 23), 10 PAB members, which were present at the workshop or attending remotely to the workshop, further expressed their preferences on the top 8 more relevant features previously presented, to foster discussions with the GES4SEAS partners during the break-out sessions.



Prioritisation by the GES4SEAS PAB

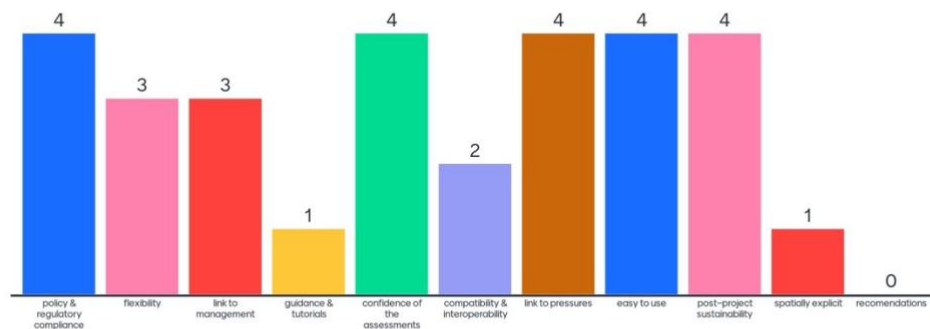


Figure 23: Mentimeter online interactive poll (top) and prioritisation results (bottom) obtained from the preferences stated by PAB members at the 1st GES4SEAS workshop.

Following the prioritization voting activity, a World Cafe session followed. This was run in an informal setup and environment, this ideation method allows for a simple, effective, and flexible format for hosting large group dialogue.

Three mixed groups with PAB members and GES4SEAS representatives from workpackages 2 to 5 were formed, with between 8 to 10 people/organisations in each table, including a moderator (from WP1) and a rapporteur (from WP6). Each table was assigned two/three of the top priorities (Figure 23) to be discussed during 30 min. After that period, the project partners – the host – remained in the same table while the PAB Members – the travellers – move to the next topics table.

The host in each table kept record of the ideas/conclusions discussed over the three PAB moments in each table and summarised them into main key messages shared at the end of the break-out sessions and summarized below.

World Cafe Table 1 – Priorities discussed

Policy & Regulatory compliance

Confidence of assessment

Easy to use

Key messages:

1. Must combine all approaches and regulatory levels.
2. The use of the same language when referring to: threshold/ tipping points sustainable limits.
3. Mapping cumulative effects of pressures in light to multiple regulations & policies.
4. Test the tool with real national data.
5. Complexity can be overcome with the use of expertise (experts use the tool):
 - a. The user can choose the levels of complexity;
 - b. Should include assumptions that can be tracked when interpreting results.
6. Self-explanatory (guidelines, tutorials).

World Cafe Table 2 – Priorities discussed

Flexibility

1. Technical flexibility (adapt to different datasets, scales, places, data availability. Also outputs.
2. Useful to identify & communicate problems and help in the design of measures. Integration of scenarios (climate change, future developments).

Compatibility & Interoperability

3. Comparable across regions and allows for a European-scale assessment.

Post-Project sustainability

4. Adaptability (reporting obligations and other processes).
5. End-users.

World Cafe Table 3 – Priorities discussed

Link to management

Link to pressures

Key messages:

1. The toolbox should assess the **effectiveness** of the regulatory and non-regulatory measures, through the capacity of forecasting scenarios, i.e., assess the **predictability** of future scenarios. For instance, how action and non-action measures can lead to different scenarios.
2. Toolbox for those who manage: should be **practical / applicable** (avoid a purely conceptual tool) and address the needs from different policies (MSFD, MSP, etc.). It should screen the needs of social actors, governance, and interventions.
3. The toolbox should be able to consider **the threshold of the activity** (and the associated pressure); quantifying what is too much. What is the tolerance-level? If a threshold is hit,

then this leads to a particular impact and scenario. Thresholds have to be input by the user (driven by management). But the threshold is not always known.

4. **Link (multiple) human activities to (collective) pressures** as linearly as possible (human activity - pressure - impact). Assess what is the **individual contribution of each pressure** to the overall impact of the cumulative pressures. What is the link between individual pressure to the “share” of the global impact.
5. **Uncertainty** should be calculated: associated with the assessment of GES, or with the link between activity and impact. This affects the communication with decision makers - they intervene at different phases of the pipeline (either with those that impact the environment through activities, or with those that monitor the regulations of GES). We need to assess the certainty at the different steps of the toolbox pipeline.

The **remaining GES4SEAS project partners** present at the kick-off meeting gathered in an additional enlarged break-out group and discussed **five** of the selected priorities with regard to the implementation of the toolbox in each of the 4 European regional seas. The main key messages are listed below.

Policy and regulatory compliance

The tool needs to have a regional approach and the flexibility to be able to be compliant with different policies.

Confidence of assessment

The tool needs to have two levels: a technical level and a political level.

It needs to be understandable to the end user and needs to identify gaps in the data.

Easy to use

Need to be able to import and export excel files.

Needs to be usable in many languages so an English-only tool doesn't cause a barrier.

A decision tree would be useful pre-assessment to indicate which tools would be useful to the user based on the data they have.

Link to pressures

A link between pressure and activity is important for taking action and implementing management measures.

Sustainability of the tool

The tool itself may not need to survive as it will need to evolve as the ecosystems change

If there is transparency of how the tool is created, the idea can be sustainable and adapted as needed.



2022